

FUNCTIONAL SURFACE COATING

ABSTRACT OF THE DISCLOSURE

5 Compositions and methods of preparing functional thin films or surface coatings with
low non-specific binding are described. The thin films contain specified functional groups
and non-specific binding repellant components. The thin films are either covalently bound to
or passively adsorbed to various solid substrates. The specified functional group provides
specified activity for the thin film modified solid surfaces and non-specific binding repellant
10 components significantly reduce the non-specific binding to the thin film modified solid
surfaces. Non-specific binding repellant components do not affect specified functional
group's activity in the thin films. In these methods, specified functional groups are anchored
to the solid substrates through a spacer. Surface coatings are also described having both non-
specific protein binding properties combined with functional groups for specific binding
15 activity thereby providing surface coating that specifically recognize target proteins but limit
binding to non-specific protein.